

Amendments to the Drawings:

The drawing sheet attached in connection with the above-identified application containing Figure 23 is being presented as a new formal drawing sheet.

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 1-9, 49-54, 62-65, and 72 are now pending in this application. Claims 62-65 have been withdrawn from consideration.

Drawing Objection

The drawings are objected to for not showing the features recited in the claims. In particular, the drawings are objected to for not showing “a W-W shaped profile,” as recited in claim 51. Applicant respectfully submits that the amendments to the drawings render this objection moot. Reconsideration and withdrawal of this objection is respectfully requested.

Rejections under 35 U.S.C. § 112

Claims 51 and 72 are rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. Applicant respectfully submits that the drawing amendments and the amendments to claim 72 render these rejections moot. Reconsideration and withdrawal of these rejections is respectfully requested.

Rejections under 35 U.S.C. § 102

Claims 1, 2, 4-6, 49-52, 54, and 72 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 5,178,582 to Maji *et al.* (hereafter “Maji”). This rejection is respectfully traversed.

Maji discloses an electromagnetic powder coupling device that includes a rotating cylinder 5, a driving shaft 4, and a coil 8. See Maji at col. 1, lines 25-34. The cylinder can

include a shielding ring 35', 5' inserted at an axial central part of the cylinder. See Maji at col. 5, lines 1-8, and Figures 3 and 5.

The Office argues on pages 4-7 of the Office Action that the cylinder 5 shown in Figure 5 of Maji provides a W-shaped profile because the ring 5' shown in Figure 5 of Maji provides such a profile.

However, Maji does not disclose a rotor that includes a grooved portion which forms W-shaped profile, wherein the grooved portion which forms the W-shaped profile is formed by a single piece, as recited in amended claims 1, 2, 49, and 52.

Although Applicant does not agree that the cylinder 5 and ring 5' of Maji provide a W-shaped profile, the cylinder 5 and ring 5' do not provide a grooved portion which forms a W-shaped profile with only a single piece, as recited in claims 1, 2, 49, and 52.

The Office argues on page 11 of the Office Action that the claims, as previously recited, read on Maji because of the language "a portion of the grooved portion." Although Applicant does not agree with this interpretation, claims 1, 2, 49, and 52 have been amended to recite that the grooved portion forms the W-shaped profile with only a single piece.

As shown on pages 6 and 7 of the Office Action, the Office relies on the separate pieces of the cylinder 5 and ring 5' of Maji to provide a shaped profile in the device of Maji. However, the cylinder 5 and ring 5' do not form a W-shaped profile with only a single piece, as recited in claims 1, 2, 49, and 52, but instead use the two pieces of the cylinder 5 and ring 5', as shown in the annotated drawings provided on pages 6 and 7 of the Office Action. Instead, the cylinder 5 and ring 5' provide a profile that is formed by at least two pieces, namely the cylinder 5 and ring 5'.

As discussed in paragraph 0054 of Applicant's specification, providing a grooved portion in a rotor advantageously minimizes or prevents shunting of a magnetic field along the rotor and minimizes a path for magnetic flux. Further, the grooves formed in the rotor can be configured to be readily manufactured, as discussed in paragraph 0054 of Applicant's specification.

Claim 72 depends from claim 2 and is allowable over Maji for at least the reasons discussed above. Claim 72 further recites “wherein the rotor includes an outer radial surface and an inner radial surface, with each of the outer radial surface and the inner radial surface including grooved portions forming the W-shaped profile.” The Office argues on page 8 of the Office Action that because the ring 5’ is formed in a groove which extends from the outer radial surface of the cylinder 5 to the inner radial surface of the cylinder 5, there must be grooved portions in the inner radial surface. However, as shown in the drawings of Maji and the annotated drawings provided on pages 6 and 7 of the Office Action, the ring 5’ provides a flat, smooth surface on the inner radial surface of the cylinder 5 such that the inner radial surface does not include grooved portions, as recited in claim 72. In addition, the inner radial surface of the cylinder 5 of Maji does not include grooved portions which form a W-shaped profile with grooved portions on the outer radial surface, as recited in claim 72. As shown on pages 6 and 7 of the Office Action, the Office entirely relies on the outer radial surface of the cylinder 5 and ring 5’ of Maji to provide a W-shaped profile, as argued by the Office, without using any features of the inner radial surface.

For at least the reasons discussed above, Maji does not anticipate claims 1, 2, 4-6, 49-52, 54, and 72. Reconsideration and withdrawal of this rejection is respectfully requested.

Claim 49 is rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 6,102,177 to Moser *et al.* (hereafter “Moser”). This rejection is respectfully traversed.

Moser discloses a viscous clutch assembly that includes a rotor assembly 14 that in turn includes a hub 36 and a rotor 38. See Moser at col. 2, lines 49-50, and Figure 1. Moser discloses that coil rings 84 of the clutch assembly define a gap 94 which is filled with epoxy and rotor 38 includes a second gap 96. See Moser at col. 3, lines 38-42, and Figure 1.

However, the device of Moser does not include a rotor that includes a grooved portion which forms W-shaped profile, wherein the grooved portion which forms the W-shaped profile is formed by a single piece, as recited in claim 49.

As shown in the drawings of Moser, the rotor 38 does not include a grooved portion which forms W-shaped profile, as recited in claim 49. Nor does Moser disclose or suggest that such a W-shaped profile would be formed by a single piece, as recited in claim 49. Moser is silent in regard to these features.

For at least the reasons discussed above, Moser does not anticipate claim 49. Reconsideration and withdrawal of this rejection is respectfully requested.

Rejections under 35 U.S.C. § 103

Claims 3, 7, 8, and 53 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Maji. This rejection is respectfully traversed. Claims 3 and 53 depend from claims 2 and 52. As discussed above, Maji does not disclose or suggest all of the features of these claims and therefore does not render claims 3 and 53 to be unpatentable. Reconsideration and withdrawal of this rejection is respectfully requested.

Claims 1-9 and 49-54 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Moser or U.S. Patent No. 6,585,092 to Smith *et al.* (hereafter “Smith”) in view of Maji. This rejection is respectfully traversed.

Applicant notes that claim 49 was also rejected as allegedly being anticipated by Moser. Therefore, Applicant respectfully submits that this rejection does not include claim 49.

As discussed above in regard to claim 49, Moser does not disclose or suggest a rotor that includes a grooved portion which forms W-shaped profile, wherein the grooved portion which forms the W-shaped profile is formed by a single piece, as recited in claims 1, 2, 49, and 52.

Smith also fails to disclose or suggest these features. Smith discloses a fluid fan drive that includes a rotor 18. See Smith at col. 3, lines 3-20. However, as shown in the drawings of Smith, the rotor 18 does not include a grooved portion which forms W-shaped profile, as recited in claims 1, 2, 49, and 52. Nor does Smith disclose or suggest that such a W-shaped profile is formed by a single piece, as recited in claims 1, 2, 49, and 52.

Maji fails to remedy the deficiencies of Moser and Smith because Maji also fails to disclose or suggest a rotor that includes a grooved portion which forms W-shaped profile, wherein the grooved portion which forms the W-shaped profile is formed by a single piece, as recited in claims 1, 2, 49, and 52.

For at least the reasons discussed above, the combination of Moser or Smith with Maji does not render claims 1-9 and 49-54 to be unpatentable because both combinations do not disclose or suggest all of the features of claims 1, 2, 49, and 52. Reconsideration and withdrawal of this rejection is respectfully requested.

Conclusion

Applicant submits that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing or a credit card payment form being unsigned, providing incorrect information resulting in a rejected credit card transaction, or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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